

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A ~~[[M]]~~ method for the production of a film tube on a cellulose basis, which is strengthened by an insert, comprising: ~~[[by]]~~

extruding an aqueous cellulose-N-methyl-morpholine N-oxide (NMMO) solution onto the insert, which is drawn from a roll and formed into a tube with an overlapping longitudinal seam, ~~characterized in that the tube passes through a heating section situated ahead of the nozzle block and communicating therewith, in which~~

preheating the insert is preheated with hot air to the a temperature that is based on a corresponding temperature of the extruded cellulose-NMMO solution, ~~and then~~

cementing the seam is cemented with pure NMMO or cellulose-NMMO solution, ~~and~~

allowing the tube with the cemented seam to be ~~is then~~ carried through a ~~the~~ nozzle block in which the NMMO and/or cellulose-NMMO solution is applied to the tube and penetrates it, such that in order to obtain an insert-reinforced film tube is obtained, and wherein that the interior of the film tube is filled with an aqueous NMMO solution, and

allowing that the film tube to exit~~[[s]]~~ from the nozzle block and enter~~[[s]]~~ into a spin bath, ~~is turned about in the latter and is carried out.~~

2. (Currently amended) Method according to claim 1, wherein ~~characterized in that~~ emulsifiers, wetting agents and/or anchoring agents are applied ~~by one of the known methods as roller application.~~

3. (Currently amended) Method according to claim 1, wherein ~~characterized in that~~ pressure-regulated supporting air is blown into the interior of the film tube after departure from the nozzle block.

4. (Currently amended) Method according to claim 1, ~~characterized in that~~ wherein the film tube is carried through a heated annular gauging disk through which a heating medium flows in a controlled circuit.

5. (Currently amended) Method according to claim 1, ~~characterized in that~~ wherein the aqueous NMMO solution is delivered through the nozzle block into the interior of the film tube and also removed therefrom ~~[[it]]~~, the delivery and removal being performed at a distance apart from one another.

6. (Currently amended) Method according to claim 5, ~~characterized in that~~ wherein the level of the delivery of the aqueous NMMO solution is adjustable and that the removal is performed such that the level in the film tube is variably higher by up to 20 mm and lower by up to 45 mm than ~~[[the]]~~ a corresponding level in the spin bath.

7. (Currently amended) Method according to claim 1, ~~characterized in that~~ wherein the film tube, after leaving the nozzle block, runs through an air section until it enters into the spin bath, and that in the air section an external temperature treatment takes place which regulates the rate of solidification of the cellulose-NMMO solution of the film tube.

8. (Currently amended) Method according to claim 1, ~~characterized in that~~ wherein the film tube plunges vertically into the spin bath and with maintenance of a constant tension is turned about by a powered return roll running close to the bottom of the spin bath tube and is carried out upwardly at an angle from the spin bath.

9. (Currently amended) Method according to claim 1, ~~characterized in that~~ wherein the spin bath level inside and outside of the film tube is lowered as far as the upper edge of a return roll and that the film tube is sprayed inside and out with the spin bath.

10. (Currently amended) Method according to claim 1, ~~characterized in that~~ wherein the longitudinal seam of the tubular envelope is cemented with straight NMMO or cellulose-NMMO

solution at a temperature of 15 to 110° C, ~~especially at the temperature of the cellulose-NMMO solution extruded in the nozzle block.~~

11. (Currently amended) Method according to claim 1, ~~characterized in that~~ wherein the cellulose content of the extruded cellulose-NMMO solution amounts to 1 to 15 wt.%, ~~especially 3 to 7 wt.-%~~ with respect to the total solution, and that the average degree of polymerization ranges from 250 to 800, ~~especially from 300 to 500.~~

12. (Currently amended) Method according to claim 1, ~~characterized in that~~ wherein the aqueous NMMO solution of the spin bath has an NMMO concentration of 5 – 50 wt.-%, ~~especially of 8 to 20 wt.-%~~ and that the spin bath is adjusted to 0 to 50°C, ~~especially to 2 to 20°C.~~

13. (Currently amended) An Apparatus for producing a film tube on a cellulose basis, reinforced by which an insert ~~reinforces~~, formed by extruding an aqueous cellulose-N-methylmorpholine-N-oxide (NMMO) solution onto the insert, said apparatus comprising: with a nozzle block, (7) ~~and a spin bath (11), characterized in that~~ a supply roll (2) for the insert (3), a deflector roll (4), and a forming section (5) for forming in which the insert (3), ~~is formed~~ into a tube (6) with an overlapping longitudinal seam, ~~are present,~~

said apparatus further comprising a preheating system disposed ahead of the nozzle block, that a the preheating system (15) is being connected in said apparatus by hot air ducts, said apparatus further comprising (22, 23) and an exhaust duct (24) connected to a controllable heater (17) from which heated air heated in the circuit flows into the preheating system (15) and from which cooled air flows back into the controllable heater (17), and wherein that the preheated tube (6) is capable of passing es through the nozzle block (7) which is preceded by a cementing system (25) for cementing the longitudinal seam and then through the nozzle block which contains an annular nozzle (21) from whose nozzle gap the cellulose-NMMO solution is applied to the preheated and cemented tube (6) that has been preheated to the temperature of the extrusion solution for the formation of the film tube (10).

14. (Currently amended) Apparatus for the production of a film tube according to claim 13, wherein characterized in that the insert (3) said apparatus is capable of being used with an insert is selected from the group consisting of ~~[[,]]~~ paper, nonwoven, fiber fleece, fiber paper, ~~the fibers~~ being especially and long hemp fibers.

15. (Currently amended) Apparatus for the production of a film tube according to claim 13, wherein said apparatus further comprises an applicator system such that characterized in that, after ~~[[the]]~~ drawing ~~[[of]]~~ the insert (3) from the supply roll (2) ~~an~~ said applicator system being capable of applying (39) is provided by which additives, ~~such as emulsifiers, wetting agents~~ and/or anchoring means can be applied to the insert and said insert being capable of being dried in the following ~~hot open air section~~ preheating system.

16. (Currently amended) Apparatus for the production of a film tube according to claim 13, ~~characterized in that~~ wherein the nozzle block (7) ~~contains~~ comprises a ring nozzle (21) which is heated by a heating medium, flowing through said controllable heating circuit connected by lines to a double jacket of the ring nozzle, and that ~~[[the]]~~ a delivery tube, ~~[[the]]~~ a removal tube (18, 19) and ~~[[the]]~~ a duct (20) for ~~the air~~ supporting the film tube (10) with air are brought centrally through a gauging ring disk (8) which is arranged concentrically ~~with the ring nozzle (21) in the film tube interior and forms~~ with the ring nozzle (21) in the film tube interior and forms with the latter an annular gap (26) ~~through from~~ which the film tube (10) runs through an air section into a spin bath within a spin tube.

17. (Currently amended) Apparatus for the production of a film tube according to claim 16, wherein characterized in that the gauging ring disk (8) is connected to ~~the~~ a heating circuit (16) for the purpose of heating.

18. (Currently amended) Apparatus for the production of a film tube according to claim 16, wherein characterized in that the delivery tube (18) and the removal tube (19) are individually height-adjustable within the film tube (10).

19. (Currently amended) Apparatus for the production of a film tube according to claim ~~[[18]]~~ 16, ~~characterized in that~~ wherein the delivery tube (~~18~~) is disposed in an upper position at the beginning of the delivery of the aqueous NMMO solution into the film tube (~~10~~) and at the start of continuous operation, said delivery tube assumes a position above ~~[[the]]~~ a return roll (~~13~~) near a lower portion of the spin tube.

20. (Canceled) Apparatus for the production of a film tube according to claim 16, characterized in that the heating medium flows through the ring nozzle and is carried in a controlled heating circuit (16).

21. (Currently amended) Apparatus for the production of a film tube according to claim ~~[[13]]~~ 16, ~~characterized in that~~ wherein the air section (~~9~~) amounts to 1 to 1000 mm, ~~especially 200 to 500 mm, and~~ such that ~~is necessary~~ the film tube (~~10~~) can be heated to delay its solidification or cooled to accelerate its solidification in the air section.

22. (Currently amended) Apparatus for the production of a film tube according to claim ~~[[13]]~~ 19, ~~characterized in that~~ wherein the return roll (~~13~~) disposed near said lower portion the bottom of the spin tube (~~12~~) is driven and exerts a constant tension on the ~~vertically descending~~ film tube when said film tube is descending vertically (~~10~~).

23. (Currently amended) Apparatus for the production of a film tube according to claim 22, wherein said apparatus is capable of facilitating that ~~characterized in that~~ the film tube (~~10~~) lies flat against the return roll (~~13~~) along a line of contact (~~27~~) as a result of the tension exerted on the film tube (~~10~~).

24. (Currently amended) Apparatus for the production of a film tube according to claim 13, wherein said apparatus is capable of facilitating ~~characterized in that~~ the spin bath (~~11~~) and the aqueous NMMO solution in the film tube (~~10~~) have equal NMMO concentrations at the beginning of the extrusion of the film tube (~~10~~).

25. (Currently amended) Apparatus for the production of a film tube according to claim 13, wherein said apparatus is capable of facilitating ~~characterized in that~~ the excess pressure of the supporting air in the film tube ~~(10)~~ amounts to 0.1 to 10 mbar in the range of the air section ~~(9)~~.